

N J C Series

N J C



Non-waterproof

R o H S

Safety standard certified products available

Overview

- Connectors designed in accordance with JIS C 5432.
- A large selection of products with a large number of derivatives added.
- A variety of products certified by safety standards having proven performance in a wide range of applications including semiconductor equipment and various measuring instruments.

Feature

RoHS	RoHS Directive compliant
Waterproof	Non
Lock method	Thread lock
Features of mechanism/ material	○ Die cast shell with zinc alloy or aluminum alloy. ○ Smooth coupling thanks to employment of 5-key system guide. ○ Installation in a small space enabled by use of the L za.
Standards	○ JIS C 5432 compliant connectors available. ○ UL • CSA standard certified connectors available. (UL : UL1977 CSA : C22.2 No.182.3) ○ Safety standard certified connectors available. (EN61984 compliant, TÜV certified) Note: The specifications of safety standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (pp.127 and 130).
Cable termination	Soldering

Characteristics

Insulation resistance , Withstand voltage , Contact resistance p.38



The pin contact type has an **exposed electrode**. If it is used on the [power supply] side, it may cause **electric shock** or **short-circuit accidents**. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

NJC Series

Product No. designation

NJC - 20 ■ - P M

① ② ③ ④ ⑤ ⑥ ⑦

- ① Series designation
- ② Shell size
- ③ Number of contacts
- ④ Shell shape
- ⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
- ⑥ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
- ⑦ Safety standard specification (< UL • CSA > , < TUV >)
《 Required only when safety standard is to be specified. 》 For applicable products, see pp.127 and 130.

Cable termination : Soldering

《Option》

- When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.

(For applicable products, see below.)

Product name example : NJC-2010-PF~~X~~

Guide position change symbol (X , Y , Z) in the **red character part**.

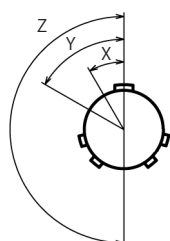
Material and Finish

	Material	Finish
Shell	Shell size 16 , 20 , 24 : Zinc alloy (Partially aluminum alloy)	Crape chrome plating Special treatment
	Shell size 28 , 32 : Aluminum alloy	
Insulator	Synthetic resin	—
Contact	Copper alloy	Silver plating Gold plating

To change the guide position (Following number of contacts only)

Shell size	Number of Contacts	Guide Position Symbol		
		X	Y	Z
16	* 3	30°	60°	180°
	* 5	45°	90°	315°
20	* 7	30°	—	—
	* 10	45°	90°	315°
	12		95°	190°
24	* 10	45°	90°	315°
	14			
	* 16			
28	* 16	45°	90°	315°
	* 24			

* UL • CSA products supported also.



An image of guide position change

< When viewed from the pin (male)
contact side coupling face >

Operating temperature range

Shell size	Number of Contacts	Operating temperature range
20	2 , 3 , 4 , 5	-40°C to +100°C
24		
32	3 , 4	-25°C to +85°C
16	3 , 5	
20	7 , 10 , 12	
24	10 , 14 , 16	
28	16 , 24	-25°C to +60°C
16	8	
20	14	
24	21 , 24	
28	31 , 37	
32	8 , 10 , 12	

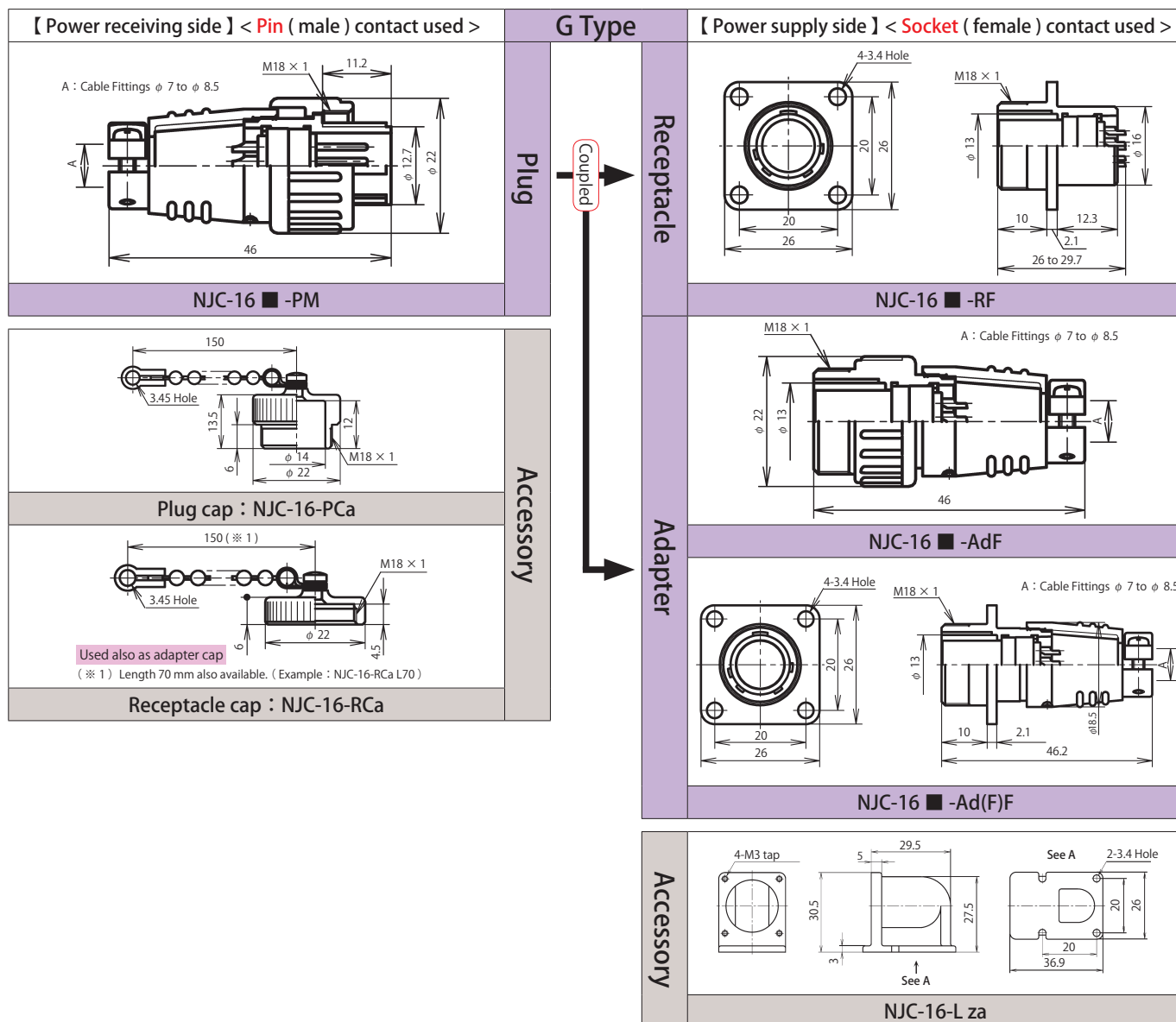
Upper limit of ambient temperature at rated current

TÜV products only

Shell size	Number of Contacts			
	2	3	4	5
20	+80°C	+80°C	+75°C	—
24	+70°C	+70°C	+80°C	+80°C
32	—	+70°C	+70°C	—

(Note) Max.ambient temp. at rated current

(Based on TÜV certification test results)

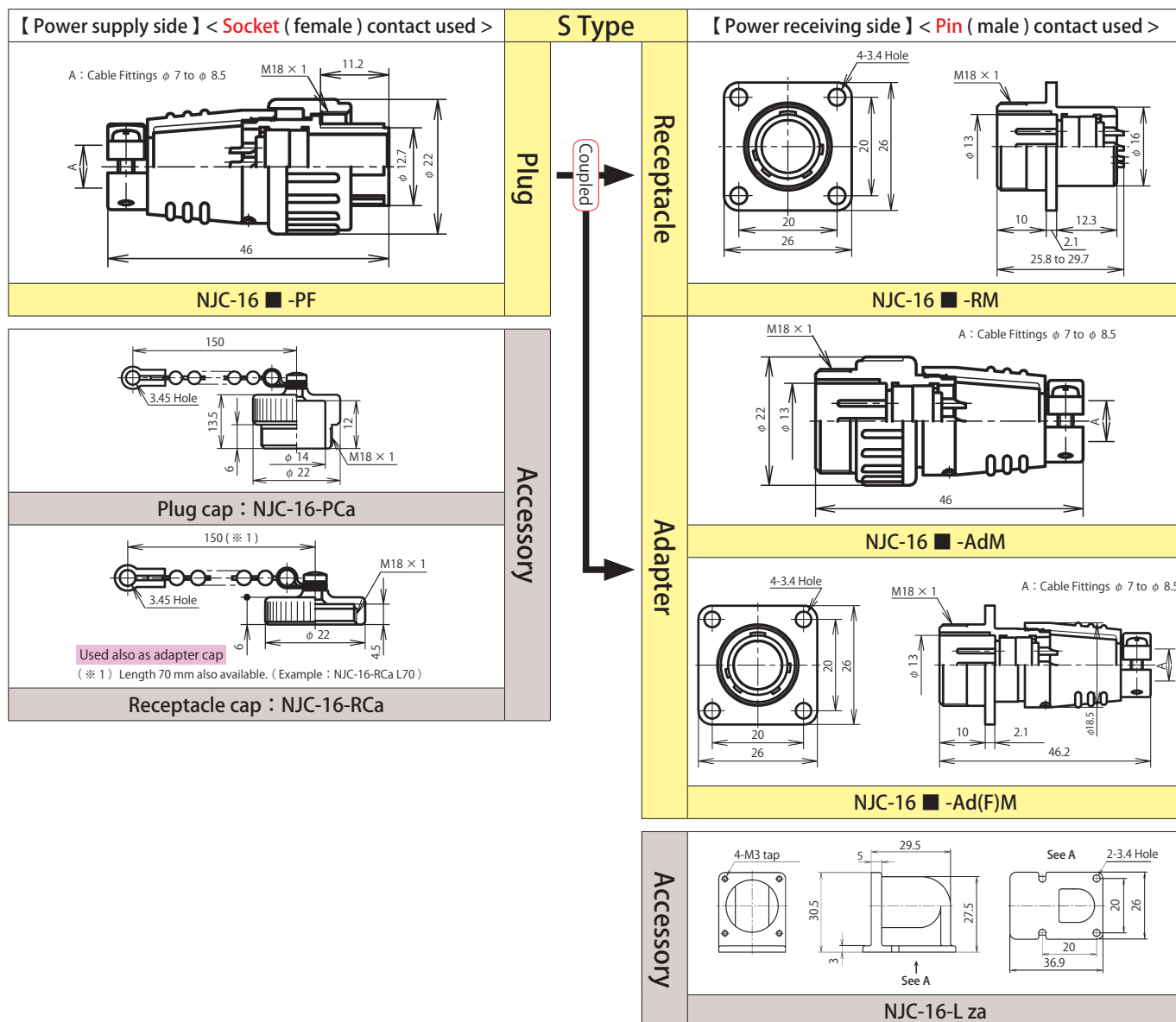


■ indicates the number of contacts.
The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on p.127.

Shell size	Number of Contacts	3	5	8
16	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard (Note-1)	UL・CSA		—
	Rating (Allowable current for signals)	125V		—
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (mm ²)	1.25	0.5	0.3
	Remarks	—		For signals

[] : Gold plating contact

Note-1 : Specified separately, "Specified as a set of UL and CSA". For safety standards, see p.127.



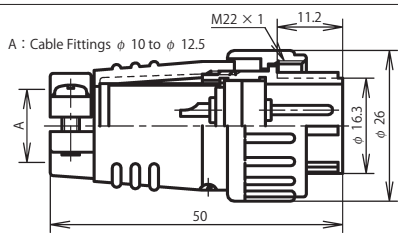
■ indicates the number of contacts.
The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on p.127.

Shell size	Number of Contacts	3	5	8
16	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard (Note-1)	UL・CSA		—
	Rating (Allowable current for signals)	125V		—
		10A	5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (mm ²)	1.25	0.5	0.3
	Remarks	—		For signals

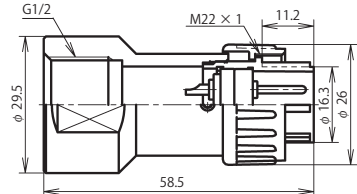
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

[] : Gold plating contact

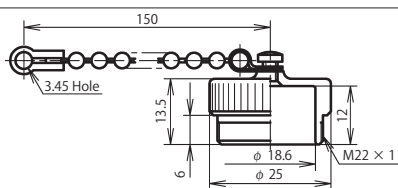
【 Power receiving side 】 < Pin (male) contact used >



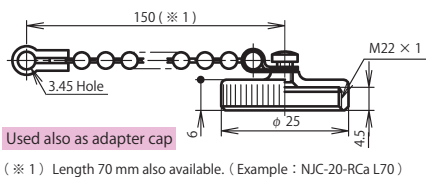
NJC-20 ■ -PM



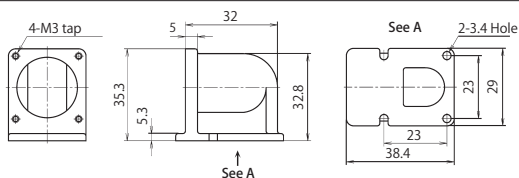
NJC-20 ■ -GPM1/2 (Note)



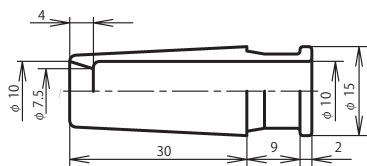
Plug cap : NJC-20-PCa



Receptacle cap : NJC-20-RCa



NJC-20-L za



Cable bushing : NJC-20-CB

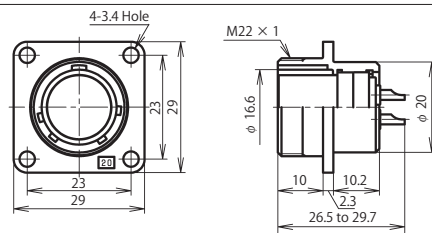
G Type

Plug

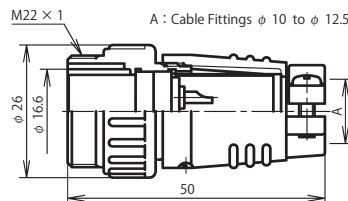
Accessory



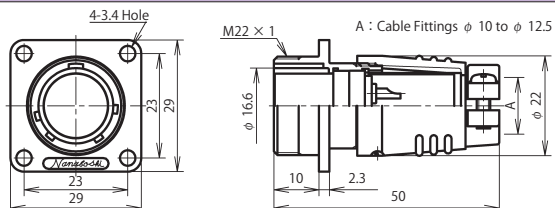
【 Power supply side 】 < Socket (female) contact used >



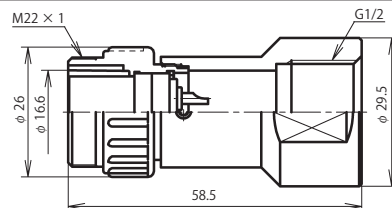
NJC-20 ■ -RF



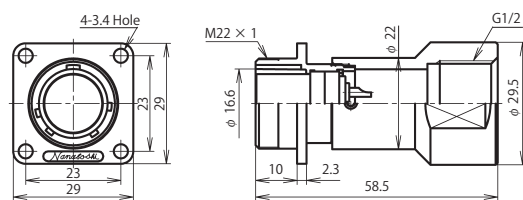
NJC-20 ■ -AdF



NJC-20 ■ -Ad(F)F

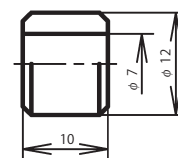


NJC-20 ■ -GAdF1/2 (Note)



NJC-20 ■ -GAd(F)F1/2 (Note)

Accessory



Cable bushing : CBAS-12-7

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.

The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

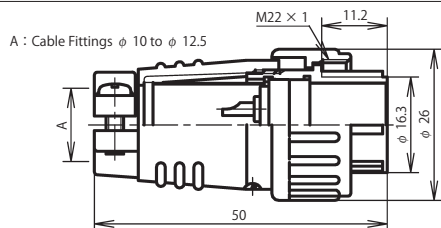
Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL-CSA TÜV	UL-CSA TÜV	UL-CSA TÜV	UL-CSA				—
	Rating (Allowable current for signals)	250V				—			
	Withstand voltage (V r.m.s.)	15A				10A			
	Wire size (mm ²)	2				1.25			
	Remarks	—				0.5			

Note-1: Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

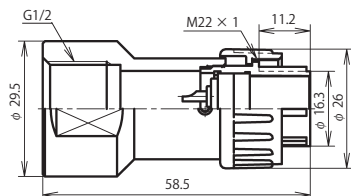
JIS mark refers to JIS C 5432 compliant products.

[] : Gold plating contact

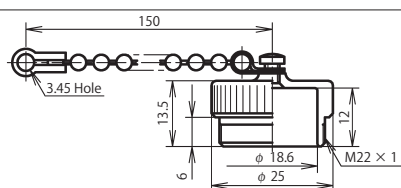
【 Power supply side 】 < Socket (female) contact used >



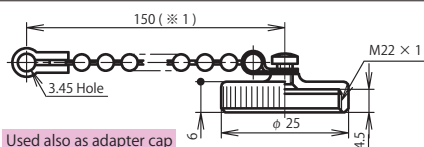
NJC-20 ■ -PF



NJC-20 ■ -GPF1/2 (Note)



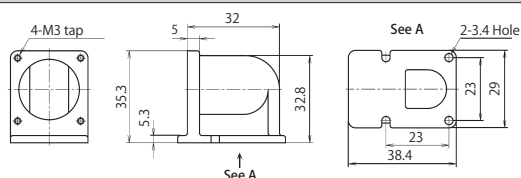
Plug cap : NJC-20-PCa



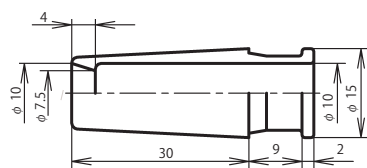
Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-20-RCa L70)

Receptacle cap : NJC-20-RCa



NJC-20-L za



Cable bushing : NJC-20-CB

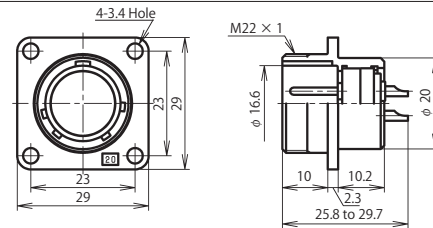
S Type

Plug

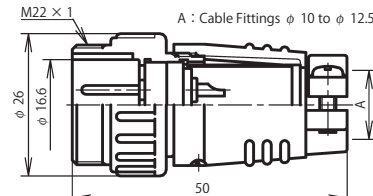
Accessory



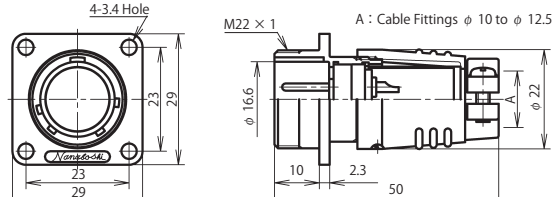
【 Power receiving side 】 < Pin (male) contact used >



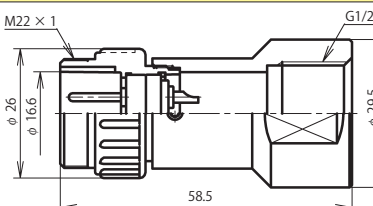
NJC-20 ■ -RM



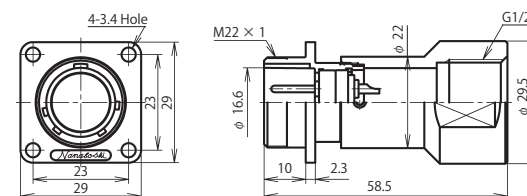
NJC-20 ■ -AdM



NJC-20 ■ -Ad(F)M

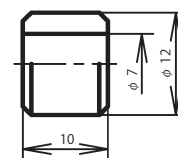


NJC-20 ■ -GAdM1/2 (Note)



NJC-20 ■ -GAd(F)M1/2 (Note)

Accessory



Cable bushing : CBAS-12-7

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.

The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL·CSA TÜV	UL·CSA TÜV	UL·CSA TÜV	UL·CSA				—
	Rating (Allowable current for signals)	250V				15A			
	Withstand voltage (V r.m.s.)	1,500				1,000			
	Wire size (mm ²)	2				1.25			
	Remarks	—				For signals			

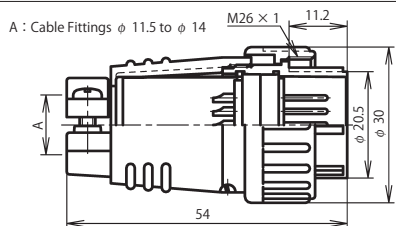
Note-1: Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

JIS mark refers to JIS C 5432 compliant products.

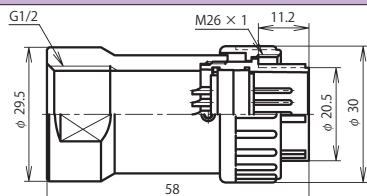
[] : Gold plating contact

NJC Series Shell Size 24

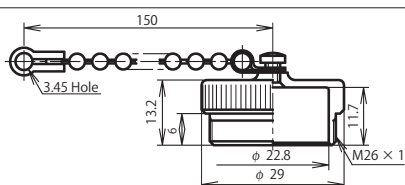
【 Power receiving side 】 < Pin (male) contact used >



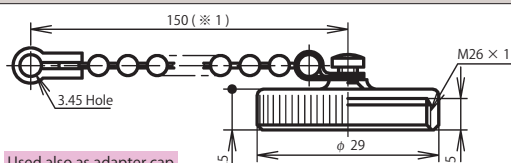
NJC-24 ■ -PM



NJC-24 ■ -GPM1/2 (Note)

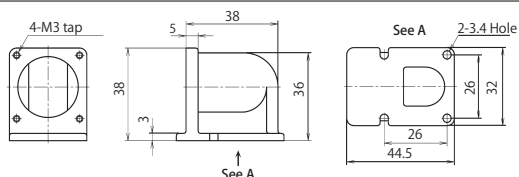


Plug cap : NJC-24-PCa



Used also as adapter cap
(※ 1) Length 50,70 mm also available. (Example : NJC-24-RCa L70)

Receptacle cap : NJC-24-RCa



NJC-24-L za

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

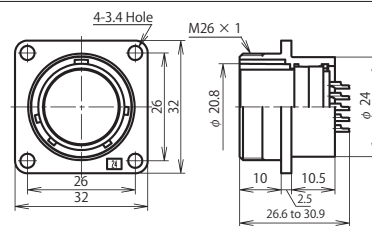
G Type

Plug

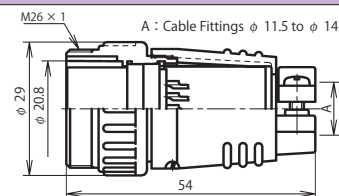


Accessory

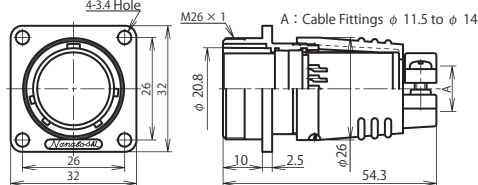
【 Power supply side 】 < Socket (female) contact used >



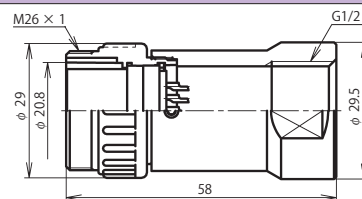
NJC-24 ■ -RF



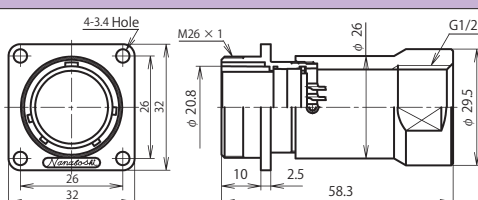
NJC-24 ■ -AdF



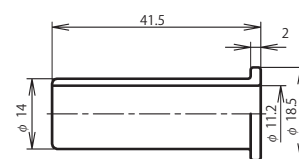
NJC-24 ■ -Ad(F)F



NJC-24 ■ -GAdF1/2 (Note)



NJC-24 ■ -GAd(F)F1/2 (Note)



Cable bushing : NJC-24-CB

Accessory

■ indicates the number of contacts.

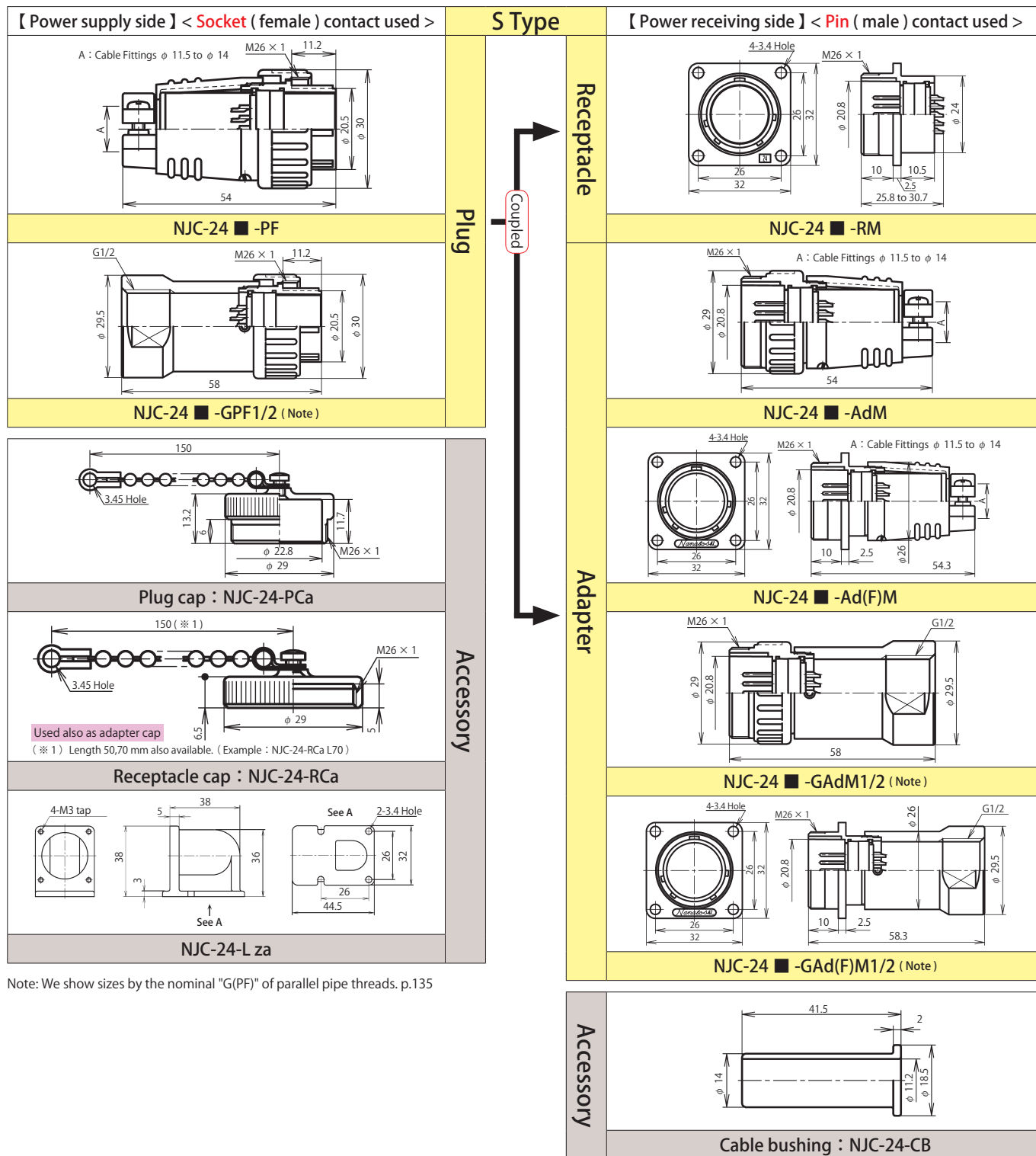
The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	2		3		4		5		10	14	16	21	24		
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									JIS 		JIS 				
	Safety standard (Note-1)	UL·CSA	TÜV	UL·CSA	TÜV	UL·CSA	TÜV	UL·CSA	TÜV	UL·CSA			—			
	Rating (Allowable current for signals)	250V													—	
		20A				15A				10A		5A		3pcs=6A [18pcs=3A]	[3A]	
	Withstand voltage (V r.m.s.)	1,500													500	
	Wire size (mm ²)	3.5				2				1.25		0.5		3pcs=0.75 18pcs=0.3	0.3	
Remarks	—													For signals		

JIS mark refers to JIS C 5432 compliant products.

[] : Gold plating contact

Note-1: Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.



Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.

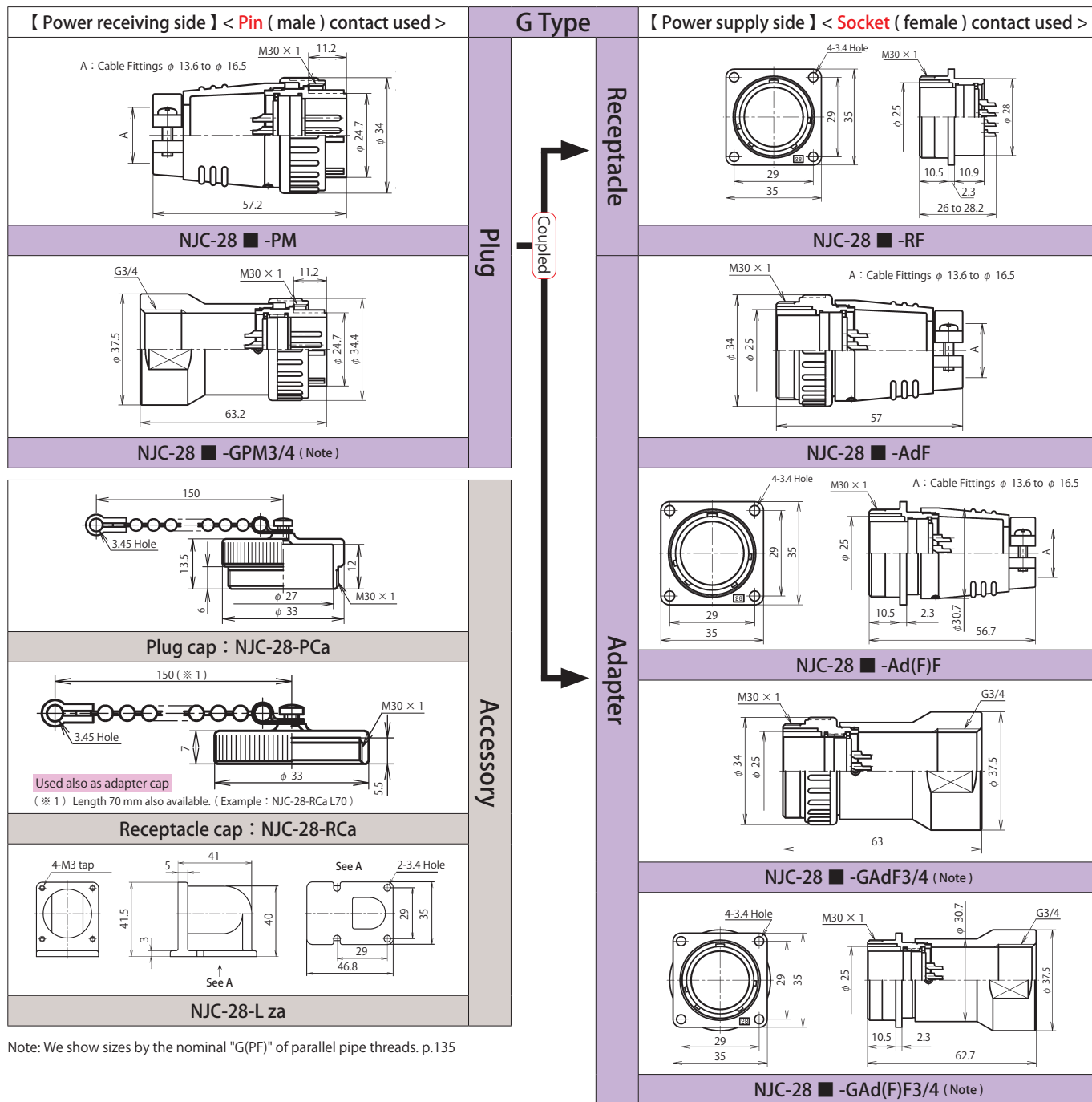
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Shell size	Number of Contacts	2		3		4		5		10	14	16		21	24					
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									JIS 		JIS 								
	Safety standard (Note-1)	UL-CSA	TÜV	UL-CSA	TÜV	UL-CSA	TÜV	UL-CSA	TÜV	UL-CSA				—						
	Rating (Allowable current for signals)	250V														—				
	Withstand voltage (V r.m.s.)	20A				15A				10A				5A				3pcs=6A [18pcs=3A]		[3A]
	Wire size (mm ²)	3.5				2				1.25				0.5				3pcs= 0.75 18pcs= 0.3		0.3
	Remarks	—														For signals				

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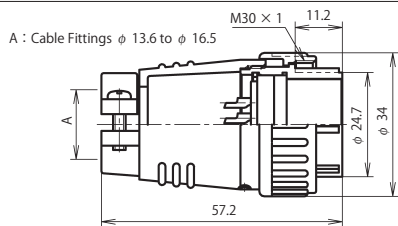
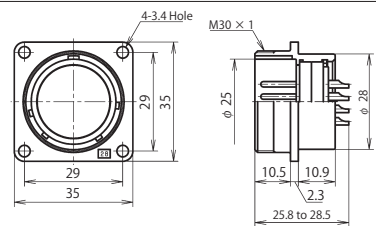
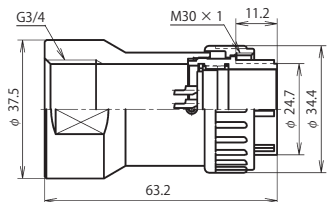
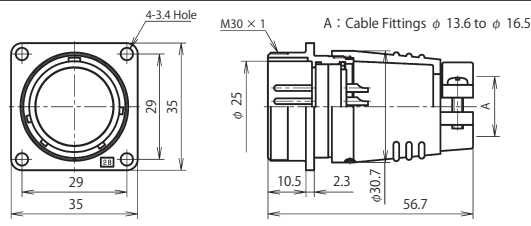
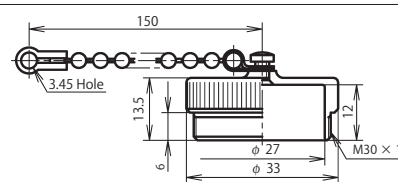
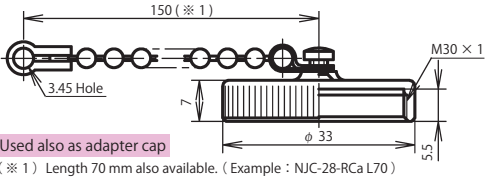
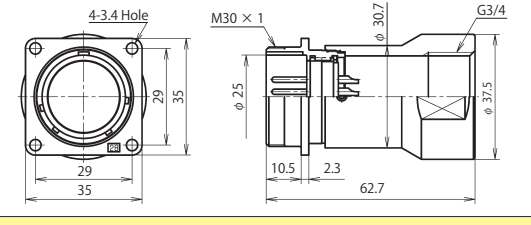
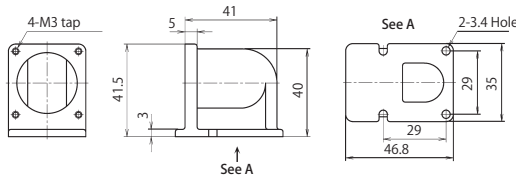
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Shell size	Number of Contacts	16	24	31	37
28	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V		—	
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (mm ²)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

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[] : Gold plating contact

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

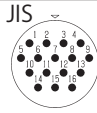
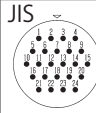
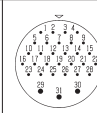
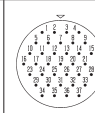
【 Power supply side 】 < Socket (female) contact used >		S Type	【 Power receiving side 】 < Pin (male) contact used >		
 A : Cable Fittings φ 13.6 to φ 16.5	Plug	Coupled	Receptacle	 4-3.4 Hole M30 × 1	
NJC-28 ■ -PF			NJC-28 ■ -RM		
 G3/4 M30 × 1			NJC-28 ■ -AdM		
NJC-28 ■ -GPF3/4 (Note)			Adapter	 4-3.4 Hole M30 × 1 A : Cable Fittings φ 13.6 to φ 16.5	
 150 3.45 Hole 13.5 6 φ 27 φ 33 M30 × 1	Accessory			NJC-28 ■ -Ad(F)M	
 150 (※ 1) 3.45 Hole 7 φ 33 5.5 M30 × 1 Used also as adapter cap (※ 1) Length 70 mm also available. (Example : NJC-28-RCa L70)			NJC-28 ■ -GAdM3/4 (Note)		
Receptacle cap : NJC-28-RCa					 M30 × 1 G3/4 φ 34 φ 25 63
 4-M3 tap 5 41 41.5 3 40 See A 29 46.8 29 35 See A 2-3.4 Hole		NJC-28-L za			NJC-28 ■ -GAd(F)M3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.

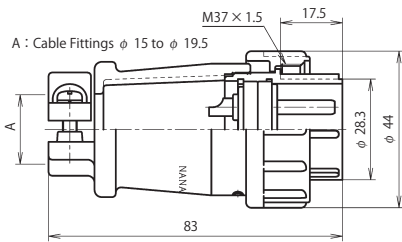
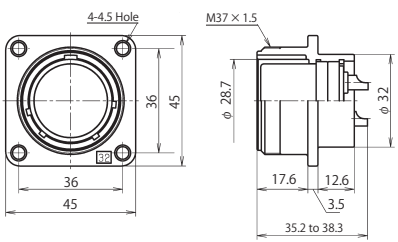
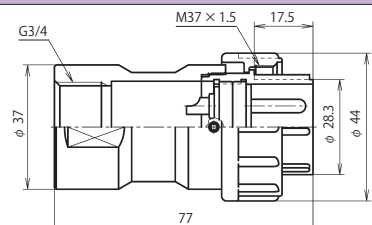
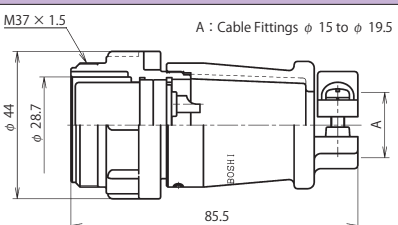
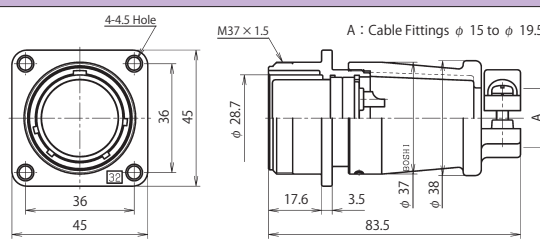
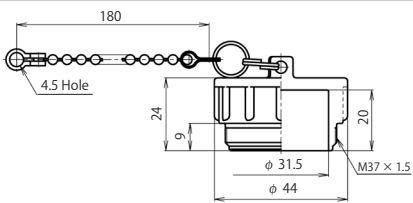
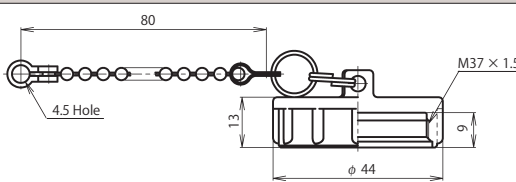
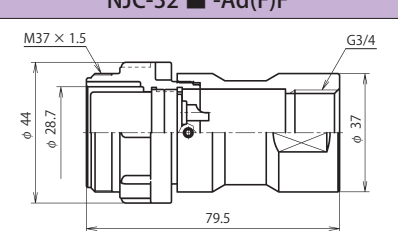
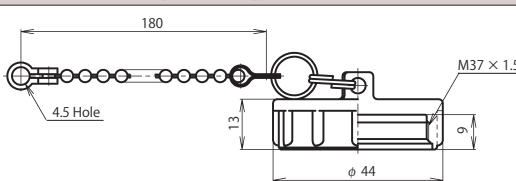
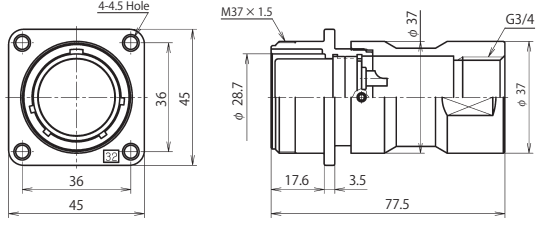
The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on p.127.

Shell size	Number of Contacts	16	24	31	37
28	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V		—	
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (mm ²)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

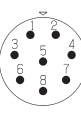
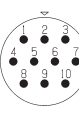
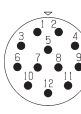
JIS mark refers to JIS C 5432 compliant products.

[] : Gold plating contact

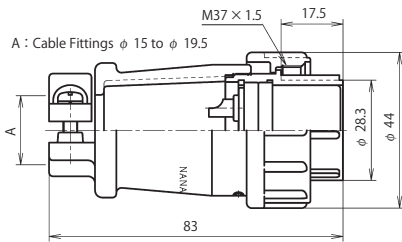
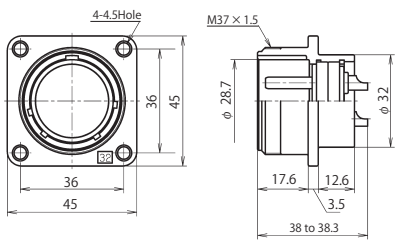
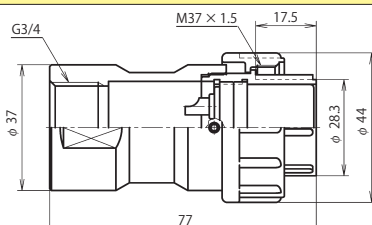
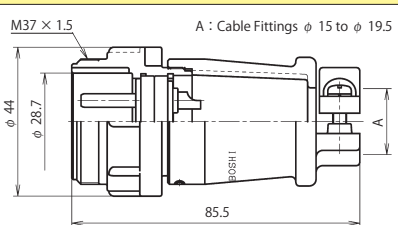
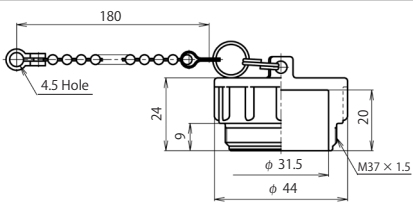
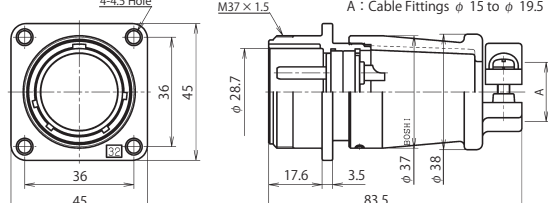
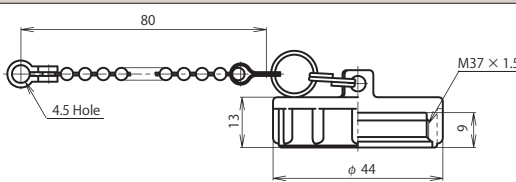
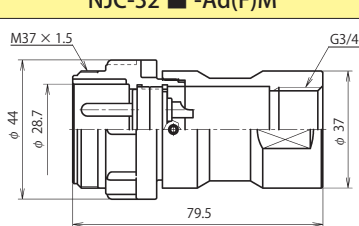
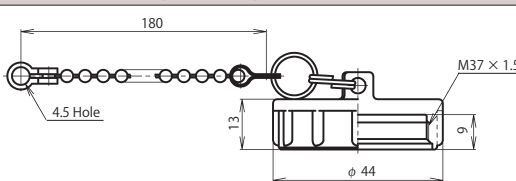
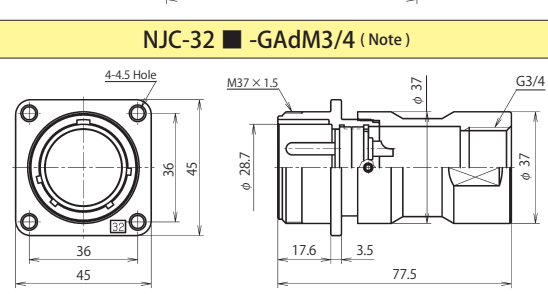
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

【 Power receiving side 】 < Pin (male) contact used >		G Type		【 Power supply side 】 < Socket (female) contact used >	
 A : Cable Fittings ϕ 15 to ϕ 19.5 M37 $\times$ 1.5 17.5 28.3 44 83		Coupled	Receptacle	 4-4.5 Hole M37 $\times$ 1.5 28.7 36 45 36 45 17.6 12.6 3.5 35.2 to 38.3	
NJC-32 ■ -PM				NJC-32 ■ -RF	
 G3/4 M37 $\times$ 1.5 17.5 28.3 44 37 77				 M37 $\times$ 1.5 A : Cable Fittings ϕ 15 to ϕ 19.5 44 28.7 85.5	
NJC-32 ■ -GPM3/4 (Note)		Adapter	Adapter	 4-4.5 Hole M37 $\times$ 1.5 A : Cable Fittings ϕ 15 to ϕ 19.5 28.7 36 45 36 45 17.6 3.5 37 38 83.5	
 180 4.5 Hole 24 9 31.5 44 M37 $\times$ 1.5 20				NJC-32 ■ -AdF	
Plug cap : NJC-32-PCa				NJC-32 ■ -Ad(F)F	
 80 4.5 Hole 13 M37 $\times$ 1.5 9 44				 M37 $\times$ 1.5 G3/4 44 28.7 79.5 37	
Receptacle cap : NJC-32-RCa				NJC-32 ■ -GAdF3/4 (Note)	
 180 4.5 Hole 13 M37 $\times$ 1.5 9 44				 4-4.5 Hole M37 $\times$ 1.5 37 G3/4 28.7 17.6 3.5 77.5	
Adapter cap : NJC-32-AdCa		NJC-32 ■ -GAd(F)F3/4 (Note)			
Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135					

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	3	4	8	10	12
32	Contact arrangement <When viewed from the pin (male) contact coupling side>					
	Safety standard (Note-1)	UL・CSA	TÜV	UL・CSA	TÜV	UL・CSA
	Rating	250V 30A		250V 10A		
	Withstand voltage (V r.m.s.)	2,000		1,500		
	Wire size (mm ²)	5.5, 6		2		

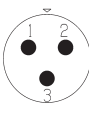
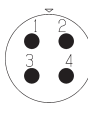
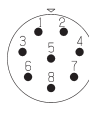
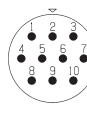
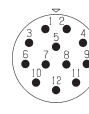
Note-1: Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

【 Power supply side 】 < Socket (female) contact used >		S Type		【 Power receiving side 】 < Pin (male) contact used >				
 A : Cable Fittings ϕ 15 to ϕ 19.5 M37 $\times$ 1.5 17.5 28.3 44 83		Plug		Receptacle		 4-4.5Hole M37 $\times$ 1.5 28.7 36 45 36 45 17.6 12.6 3.5 38 to 38.3		
NJC-32 ■ -PF				NJC-32 ■ -RM				
 G3/4 M37 $\times$ 1.5 17.5 37 28.3 44 77				 M37 $\times$ 1.5 A : Cable Fittings ϕ 15 to ϕ 19.5 44 28.7 85.5				
NJC-32 ■ -GPF3/4 (Note)		NJC-32 ■ -AdM						
 180 4.5 Hole 24 9 31.5 44 M37 $\times$ 1.5		Accessory			Adapter		 4-4.5 Hole M37 $\times$ 1.5 A : Cable Fittings ϕ 15 to ϕ 19.5 44 28.7 36 45 36 45 17.6 3.5 37 38 83.5	
Plug cap : NJC-32-PCa					NJC-32 ■ -Ad(F)M			
 80 4.5 Hole 13 9 M37 $\times$ 1.5 44					 M37 $\times$ 1.5 G3/4 44 28.7 79.5 37			
Receptacle cap : NJC-32-RCa					NJC-32 ■ -GAdM3/4 (Note)			
 180 4.5 Hole 13 9 M37 $\times$ 1.5 44					 4-4.5 Hole M37 $\times$ 1.5 37 G3/4 28.7 17.6 3.5 77.5			
Adapter cap : NJC-32-AdCa		NJC-32 ■ -GAd(F)M3/4 (Note)						

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value. However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	3	4	8	10	12
32	Contact arrangement <When viewed from the pin (male) contact coupling side>					
	Safety standard (Note-1)	UL・CSA	TÜV	UL・CSA	TÜV	UL・CSA
	Rating	250V 30A		250V 10A		
	Withstand voltage (V r.m.s.)	2,000		1,500		
	Wire size (mm ²)	5.5 , 6		2		

Note-1: Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

NJC Series Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)			Contact resistance (m Ω)			Withstand voltage (V r.m.s.)			
		Normal products	Safety standard		Normal products	Safety standard		Normal products	Safety standard		
			UL • CSA	TÜV		UL • CSA	TÜV		UL • CSA	TÜV	
16	3	DC 500V 2,000 min.		—	3 max.		—	1,500		—	
	5	DC 500V 1,000 min.			5 max.			1,000			
	8	DC 250V 1,000 min.	—		5 max.	—		500	—		
20	2	DC 500V 2,000 min.			3 max.			1,500			
	3										
	4										
	5	DC 500V 2,000 min.		—	3 max.		—	1,500		—	
	7				1,000						
	10							DC 500V 1,000 min.			
	12	DC 500V 1,000 min.		5 max.		1,000					
14	DC 250V 1,000 min.	—		5 max.	—		500	—			
24	2	DC 500V 5,000 min.		DC 500V 2,000 min.		3 max.			1,500		
	3										
	4										
	5										
	10	DC 500V 2,000 min.		—	3 max.		—	1,000		—	
	14	DC 500V 1,000 min.			5 max.						
	16	DC 500V 1,000 min.			5 max.						
	21	DC 250V 1,000 min.		—		5 max.	—		500	—	
	24										
28	16	DC 500V 2,000 min.		—	3 max.		—	1,000		—	
	24	DC 500V 1,000 min.			5 max.						
	31	DC 250V 1,000 min.		—		5 max.	—		500	—	
	37										
32	3	DC 500V 2,000 min.			3 max.			2,000			
	4										
	8	DC 500V 2,000 min.		—	3 max.		—	1,500		—	
	10										
	12										

A List of Standards Acquired

UL • CSA certified products 【Non-waterproof】



Applicable standard: UL standard UL1977

The UL standard is a safety assurance standard released by the most famous private testing laboratory (UL) in the U.S., that is intended to eliminate the risk of fire and personal accidents caused by electrical equipment. Thus, the UL certified products are considered to be reliable and usable safely by customers. Our file No. is E117868.

Applicable standard: CSA standard C22.2 No.182.3

The CSA standard is a safety standard in Canada applicable to electrical equipment and machinery. In Canada, it is required that electrical machinery and equipment that are connected to the power supply for use conform to the CSA standard.

The U.S. and Canada have concluded a mutual recognition agreement and the UL standard and the CSA standard are treated equivalent. Also the UL standard and the CSA standard are allowed for mutual recognition and the following list of standard certified products includes the products that have been recognized by the UL by use of the CSA standard and the products that have been recognized by the CSA by use of the UL standard. Please note that depending on differences of manners of acquiring certification, markings on products may differ.

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Different guide ※			Rated current	Rated voltage	Wire size AWG (mm ²)
											X	Y	Z			
NJC	16	3					●					●		10A	125V	#16 (-)
		5					●					●		5A		#20 (-)
	20	2, 3					●					—		15A	250V	#14 (-)
		4, 5					●					—		10A		#16 (-)
		7					●				●	—		5A		#20 (-)
		10					●					●		20A		#12 (-)
		12					●					—		15A		#14 (-)
							●					●		10A		#16 (-)
	24	2, 3					●					—		5A		#20 (-)
		4, 5					●					—		20A		#12 (-)
		10					●					●		15A		#14 (-)
		14					●					—		10A		#16 (-)
	28	16					●					●		5A		#20 (-)
		24					●					●		10A		#16 (-)
							●					●		5A		#20 (-)
	32	3, 4,					●					—		30A		#10 (5.5,6)
		8, 10, 12					●					—		10A		#14 (2)
NR	20	2, 3					●					—		15A	250V	#14 (-)
		4, 5, 7					●					—		10A		#16 (-)
		10					●					●		5A		#20 (-)
		12					●					—		20A		#12 (3.5)
	24	2, 3					●					—		15A		#14 (2)
		4, 5					●					—		10A		#16 (1.25)
		10					●					●		5A		#20 (0.5)
		14, 16					●					●		30A		#10 (5.5,6)
NET	20	3					●					—		15A	250V	#14 (2)
		4					●					—		20A		#12 (3.5)
	24	3					●					—		15A		#14 (2)
		4					●					—		20A		#12 (3.5)
	28	4					●					—		15A		#14 (2)
		8					●					—		30A		#10 (5.5,6)

※ "Different guide" column: The symbol ● indicates that products of different guide position are available.

The products other than the products of shapes shown in the table are not covered by the standards.

A List of Standards Acquired

UL • CSA certified products 【 Waterproof 】



Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Different guide ※			Applicable Cable OD Symbol				Rated current	Rated voltage	Wire size AWG (mm ²)
											X	Y	Z							
NJW	16	3					●					●		9	11	—		10A	125V	#16 (-)
		5					●					●						5A		#20 (-)
	20	2, 3					●					—		8	10	12	—	15A		#14 (-)
		4, 5, 7					●					—						10A		#16 (-)
		10					●					●						5A		#20 (-)
		12					●					—								
		12					●					—								
	24	2, 3					●					—		11	13	15	—	20A		#12 (-)
		4, 5					●					—						15A		#14 (-)
		10					●					—						10A		#16 (-)
		14, 16					●					—						5A		#20 (-)
	28	16					●					—		14	16	18	—	10A		#16 (-)
		24					●					—						5A		#20 (-)
	32	3, 4,					●					—		16	20	—		30A		#10 (5.5, 6)
		8, 10, 12					●					—						10A		#14 (2)
NRW	20	2, 3	●			—		●		—		—		8	10	12	—	15A	250V	#14 (-)
		4, 5, 7	●			—		●		—		—						10A		#16 (-)
		10	●			—		●		—		●						5A		#20 (-)
		12	●			—		●		—		—								
	24	2, 3	●			—		●		—		—		11	13	15	—	20A		#12 (-)
		4, 5	●			—		●		—		—						15A		#14 (-)
		10	●			—		●		—		—		11	13	15	—	10A		#16 (-)
		14, 16	●			—		●		—		—						5A		#20 (-)
	28	16	●			—		●		—		●		10	12	14	16	18		#16 (-)
		24	●			—		●		—		●						5A		#20 (-)
NAW	20	2, 3					●					—		6	8	10	12	—	15A	#14 (-)
		4, 5					●					—						10A		#16 (-)
		7					●				●	—								#20 (-)
		10, 12					●					●						5A		#20 (-)
NEW	20	3	●			—		●		—		—		8	10	12	—	15A		#14 (2)
	24	3	●			—		●		—		—		11	13	15	—	20A		#12 (3.5)
		4	●			—		●		—		—						15A		#14 (2)
	28	4	●			—		●		—		—		10	12	14	16	18	20A	#12 (3.5)
		8	●			—		●		—		—						15A		#14 (2)

※ "Different guide" column: The symbol ● indicates that products of different guide position are available.

The products other than the products of shapes shown in the table are not covered by the standards.

A List of Standards Acquired

CSA NRTL/C



Applicable standard: CSA standard C22.2 No.182.3 , UL1977

Products that have been certified by the CSA as products that conform to the standards in both of Canada and U.S.

Series	size	Number of contacts	P	R	Ad	Ad(F)	GP □	PM	RF	AdF	GPM □	Rated current	Rated voltage	Wire size AWG		
			S Type				G Type									
NCS	25	6	●		—				●		—	10A (S Type) , 5A (G Type)	265V	#14	#16	
		7	●		—				●		—					
	30	3	●		—				●		—	15A			#14	
		8	●		—				●		—	10A (S Type) , 5A (G Type)			#16	
	40	8		●		—						20A		#10	—	
		12			●		—					3pcs-10A , 9pcs-5A		3pcs-#14 , 9pcs-#16		
		16			●		—					3pcs-10A , 13pcs-5A		3pcs-#14 , 13pcs-#16		
		20			●		—					5A		#16		
	44	8		—					●		—	20A		—	#10	
		12		—						●		3pcs-10A , 9pcs-5A			3pcs-#14 , 9pcs-#16	
		16		—						●		3pcs-10A , 13pcs-5A			3pcs-#14 , 13pcs-#16	
		20		—						●		5A			#16	
	50	15		●		—						15A		#12	—	
		25		●		—	●		—			4pcs-15A , 21pcs-5A		4pcs-#12 , 21pcs-#14		
	54	15	—							●		—		15A	—	#12
		25	—								●			4pcs-15A , 21pcs-5A		4pcs-#12 , 21pcs-#14
NWPC	60	30 , 40	●	—								5A		#14	—	

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Different guide ※			Applicable Cable OD Symbol					Rated current	Rated voltage	Wire size AWG (㎟)	
											X	Y	Z									
NAW	16	3					●					●			5	7	8	9	11	10A	125V	#16
		5					●					●								5 A		#20
	24	2, 3					●					—			8	11	13	15	—	20A	250V	#12
		4, 5					●					—								15A		#14
		10					●					●								10A		#16
		14, 16					●					●								5A		#20

※ "Different guide" column: The symbol ● indicates that products of different guide position are available.

The products other than the products of shapes shown in the table are not covered by the standards.

A List of Standards Acquired

TÜV certified products



Applicable standard: European standard EN 61984

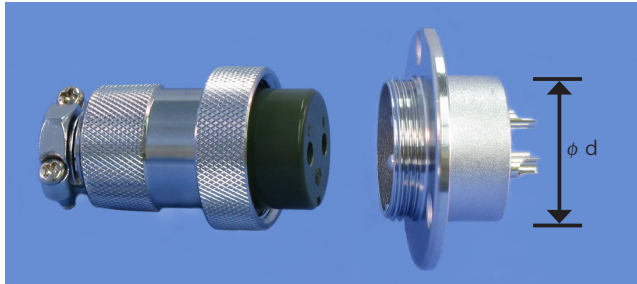
Products certified by TÜV Rheinland as the products that conform to European standard EN61984 that is applicable to multi-pole connectors for industrial application.

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Applicable Cable OD Symbol				Rated current	Rated voltage	Wire size AWG (mm)
NJC	20	2, 3					●				—				15A	250V	#14 (-)
		4					●								10A		#16 (-)
	24	2, 3					●				—				20A		#12 (-)
		4, 5					●								15A		#14 (-)
	32	3, 4					●				—				30A		#10 (5.5,6)
NR	20	2, 3					●				—				15A		#14 (-)
		4					●								10A		#16 (-)
	24	2, 3					●				—				20A		#12 (-)
		4, 5					●								15A		#14 (-)
	28	4					●				—				20A		#12 (3.5)
NET	20	3					●				—				15A		#14 (2)
	24	3					●				—				20A		#12 (3.5)
		4					●								15A		#14 (2)
	28	4					●				—				20A		#12 (3.5)
		8					●								15A		#14 (2)
NRW	32	3, 4					●				—				30A		#10 (5.5,6)
	20	2, 3	●			—		●		—	8	10	12	—	15A		#14 (-)
		4, 5	●			—		●		—					10A		#16 (-)
	24	2, 3	●			—		●		—	11	13	15	—	20A		#12 (-)
		4, 5	●			—		●		—					15A		#14 (-)
NEW	20	3	●			—		●		—	8	10	12	—	15A		#14 (2)
	24	3	●			—		●		—	11	13	15	—	20A		#12 (3.5)
		4	●			—		●		—					15A		#14 (2)
	28	4	●			—		●		—	10	12	14	16	18	20A	#12 (3.5)
		8	●			—		●		—						15A	#14 (2)

Explanation of Terms

• Shell size

We use the outer diameter (ϕd [mm]) of the panel inserting part of the receptacle to indicate the shell size.



Example : NCS-25 (Shell size)
 ϕd

• "Rated voltage" "Limit operating voltage"

The "rated voltage" is the voltage defined by the technical standards in the Electrical Appliances and Materials Safety Act in order to eliminate variation in performance by manufacturers and the "limit operating voltage" is the voltage that indicates the performance that can be exhibited by the products of Nanaboshi Electric Mfg.

Both of them are continuously usable voltages and we show the same value for both of AC and DC.

• Protection degree(JIS C 0920 , EN / IEC 60529)

The degree of protection against the entry of foreign solid objects such as dust and dirt and the ingress of water, which is verified by standardized testing methods. This protection degree is designated by the form of "IP $\square \blacksquare$ ". A figure of degree of protection against the entry of foreign solid objects is shown in $\square$ and a figure of degree of protection against the ingress of water is shown in $\blacksquare$.

If there is no need of specification, an alphabet "X" is used.

Example: IP67, IPX7

Tests are applicable only to assigned degrees and the products of degree 7 do not necessarily satisfy the tests of degree 6 or below.

IP $\square$ $\blacksquare$

First characteristic digit		
IP	Protection of electrical equipment	Protection of persons
0	Entry of foreign solid objects (No protection)	Access to hazardous parts (No protection)
1	Diameter $\geq 50\text{mm}$	Back of hand
2	Diameter $\geq 12.5\text{mm}$	Finger
3	Diameter $\geq 2.5\text{mm}$	Tool
4	Diameter $\geq 1.0\text{mm}$	Wire
5*	Dust protected	Wire
6	Dust tight	Wire

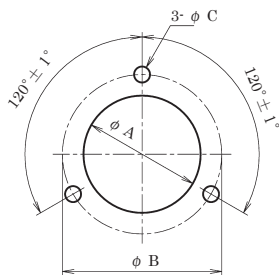
★ Category 1: Test with the inside under negative pressure.
Category 2: Test with the inside not under negative pressure.

Second characteristic digit	
IP	Protection of electrical equipment
	Harmful ingress of water
0	(No protection)
1	Vertically falling
2	Falling (at an degree of 15°)
3	Spraying
4	Splashing
5	Jetting
6	Powerful water jets
7	Temporary immersion (Watertight)
8	Continuous immersion (Submersible)

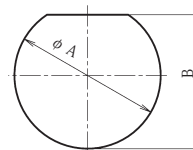
※ The testing method of numeral 8 is agreed between the parties concerned.

Installation Dimensions

Round flange receptacle (3 holes)



NJW-16-RBM,RBF



(mm)

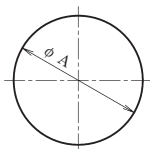
Series	Shell size	Shape	$\phi A \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	$B \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	Panel thickness
NJW	16	RBM RBF	16	15.4	2 to 5

Recommended tightening torque of mounting nut : 1.5 N · m

(mm)

Series	Shell size	Shape	$\phi A \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	ϕB	ϕC
NCS	14	R	15	23 ± 0.2	3.4 hole or M3 tap
	16	R	17	24 ± 0.2	
	25	RF	26	34 ± 0.2	
	30		31	38 ± 0.2	
	40	R	41	50 ± 0.2	
	44	RF	45	56 ± 0.2	
NWPC	50	R	51	60 ± 0.2	
	14	R	15	26 ± 0.2	
	16	R	17	30 ± 0.2	
	25	RF	26	36 ± 0.2	
	30		31	41 ± 0.2	
	40	R	41	52 ± 0.2	
	44	RF	45	60 ± 0.2	

NCS-25 · 30-RBP



(mm)

Series	Shell size	Shape	$\phi A \begin{smallmatrix} +0.5 \\ 0 \end{smallmatrix}$	Panel thickness
NCS	25	RBP	28.5	2 to 3
	30		33.5	2 to 4

Recommended tightening torque of mounting nut : 2 N · m

Precautions for installing the waterproof type

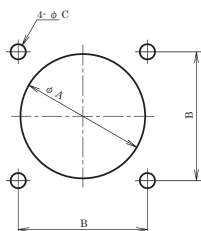
In order to secure water tightness, the installation part must be treated as below:

1. When the panel thickness is 10 mm or more, tap the panel directly and ensure that the thread hole does not penetrate from the installation panel surface to the back.
2. When the installation panel is thinner, either use a commercially available seal washer or mold the mounting nut part with resin.

※ The inside of the panel should be water tight.

Installation Dimensions

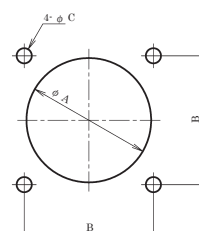
Square flange receptacle (4 holes)



(mm)

Series	Shell size	Shape	ϕA^{+1}_0	B	ϕC
NCS	25	R Kaku RF Kaku	26	24 ± 0.2	3.4 hole or M3 tap
	50	R R Kaku	51	48 ± 0.3	5.5 hole or M5 tap
	54	RF	55	52 ± 0.3	
	60	R RF	61	56 ± 0.3	
	64	RF	65	62 ± 0.3	
NWPC	50	R	51	50 ± 0.3	5.5 hole or M5 tap
	54	RF	55	52 ± 0.3	
	60	R RF	61	56 ± 0.3	
	64	RF	65	62 ± 0.3	
NJC , NJW , NAW	16	RM RF L za	17	20 ± 0.2	3.4 hole or M3 tap
NJC , NR , NET NJW , NRW NAW , NEW	20		21	23 ± 0.2	
	24		25	26 ± 0.2	
NJC , NET , NJW NRW , NEW	28		29	29 ± 0.2	
NJC , NET , NJW	32	RM RF	33	36 ± 0.2	4.5 hole or M4 tap
NT	50	RM,RF CRM,CRF	51	48 ± 0.2	

NJC, NR Series receptacle Installed from back of panel



(mm)

Series	Shell size	Shape	ϕA^{+1}_0	B	ϕC	Panel thickness
NJC	16	RM RF	19	20 ± 0.2	3.4 hole	2 to 3
	20		23	23 ± 0.2		
	24		27	26 ± 0.2		
	28		31	29 ± 0.2	4.5 hole	2 to 3.5
	32		38	36 ± 0.2		2 to 6.5
NR	20	RM	23	23 ± 0.2	3.4 hole	2 to 3
	24	RF	27	26 ± 0.2		

Precautions for installing the waterproof type

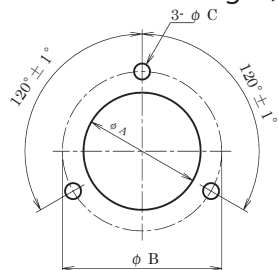
In order to secure water tightness, the installation part must be treated as below:

1. When the panel thickness is 10 mm or more, tap the panel directly and ensure that the thread hole does not penetrate from the installation panel surface to the back.
2. When the installation panel is thinner, either use a commercially available seal washer or mold the mounting nut part with resin.

※ The inside of the panel should be water tight.

Installation Dimensions

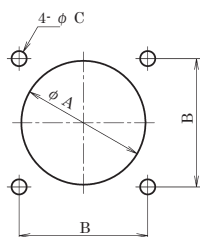
Adapter with round flange (3 holes)



(mm)

Series	Shell size	Shape	$\phi A \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	ϕB	ϕC
NCS	16	Ad(F)	22.5	28 ± 0.2	3.4 hole or M3 tap
	25	AdF(F)	29	35 ± 0.2	
	30		34	42 ± 0.2	
	40	Ad(F)	47	56 ± 0.2	
NWPC	16	Ad(F)	26	32 ± 0.2	
	25	AdF(F)	33	39 ± 0.2	
	30		38	44 ± 0.2	

Adapter with square flange (4 holes)



(mm)

Series	Shell size	Shape	$\phi A \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	B	ϕC
NJC , NJW , NAW	16	Ad(F)M Ad(F)F GAd(F)M GAd(F)F Ad(F)MK Ad(F)FK	19.5	20 ± 0.2	3.4 hole or M3 tap
NJC , NR , NET , NJW , NAW	20		24	23 ± 0.2	
NJC , NR , NET , NJW , NAW	24		27	26 ± 0.2	
NJC , NET , NJW	28		32	29 ± 0.2	
NJC , NET , NJW	32		40	36 ± 0.2	4.5 hole or M4 tap

In the case of NJW and NAW Series, insert a connector through a panel hole with the clamp nut removed.

(Other than Size 32)

AWG Conversion Table

A W G	Wire Diameter (mm)	Wire size (mm ²)	A W G	Wire Diameter (mm)	Wire size (mm ²)
4/0	11.684	107.2	24	0.5106	0.2047
3/0	10.404	85.03	25	0.4547	0.1623
2/0	9.266	67.42	26	0.4049	0.1288
0	8.250	53.49	27	0.3606	0.1021
1	7.348	42.41	28	0.3211	0.08097
2	6.544	33.63	29	0.2859	0.06425
3	5.827	26.66	30	0.2546	0.05097
4	5.189	21.15	31	0.2268	0.04039
5	4.621	16.77	32	0.2019	0.03203
6	4.115	13.30	33	0.1798	0.02540
7	3.665	10.55	34	0.1601	0.02014
8	3.264	8.368	35	0.1426	0.01597
9	2.906	6.632	36	0.1270	0.01267
10	2.588	5.262	37	0.1131	0.01005
11	2.305	4.172	38	0.1007	0.007968
12	2.053	3.309	39	0.08969	0.006319
13	1.828	2.624	40	0.07987	0.005012
14	1.628	2.081	41	0.07113	0.003973
15	1.450	1.650	42	0.06334	0.003151
16	1.291	1.309	43	0.05641	0.002499
17	1.150	1.037	44	0.05023	0.001982
18	1.024	0.8226	45	0.04473	0.001572
19	0.9116	0.6529	46	0.03984	0.001246
20	0.8118	0.5174	47	0.03547	0.0009884
21	0.7229	0.4105	48	0.03159	0.0007838
22	0.6438	0.3256	49	0.02813	0.0006216
23	0.5733	0.2581	50	0.02505	0.0004929

Parallel Pipe Thread Conversion Table

JIS B 0202 (Parallel pipe thread)	
Specified in ISO	Not specified in ISO
G ¹ / ₂	PF ¹ / ₂
G ³ / ₄	PF ³ / ₄
G1	PF1
G1 ¹ / ₄	PF1 ¹ / ₄
G1 ¹ / ₂	PF1 ¹ / ₂



JIS C 8305 (Rigid steel conduits)
Thick steel conduit pipe thread
CTG16
CTG22
CTG28
CTG36
CTG42

For designation of pipe threads, we use the expression of parallel pipe thread "G(PF)". For the thick steel conduit pipe thread (CTG) also, the above table can be used without problem.